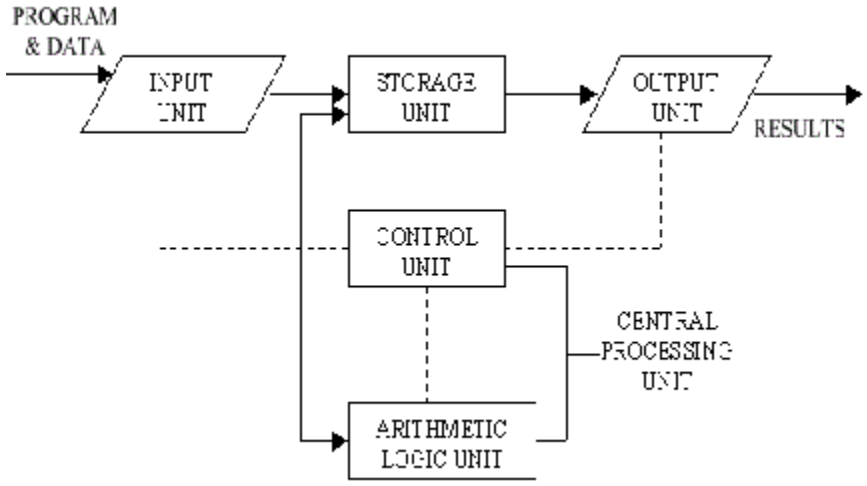
CCA-101: Fundamentals of IT & Programming
Assignment -1

Q1: What are the four fundamental parts of computer? Explain it with the help of diagram

Ans. A computer has four main components: Input Units, the central processing unit or CPU, the Primary memory, and Output units. Input Unit - The devices to input information, such as a keyboard, and mouse. CPU - The CPU is further broken up into ALU, Control Unit, and Instruction Unit.



Q2: Discuss about the classification of computers based on size and capacity.

Ans. **Computer's Classification**

Computers are classified on different parameters, such as, storage capacity, processing speed and component (CPU) used in computers. Depending upon the components used and features of different computers, they are classified into four groups, Microcomputers, Minicomputers, Mainframe computers and Supercomputers.

Micro Computers

Micro Computer is a computer whose CPU (Central Processing Unit) is a microprocessor. All the components of a microprocessor are on a single integrated circuit chip. Micro computer can be categorized as the desktop, programmable and workstation. The microprocessor based computers are called third generation computers. They are the backbone of the modern computer era. The first and second generation computers are based on vacuum tubes and bipolar junction transistors.

Desktop Computers

Desktop computer is a type of microcomputer. A desktop computer has a keyboard for input data, a LCD or CRT monitor to display information and Central processing unit tower contains storage, memory, different

types of drives, such as, CD drive, hard drive, etc. A desktop computer is mainly used at home and office applications.

Programmable Computers (PDA)

Personal digital assistance is a type of hand held programmable digital computer. It is used as notepads, address books and can connect to world web wave to share information. A PDA is equipped with mobile phone hence, called smallest computer.

Workstation

A workstation computer has greater memory capability and more extensive mathematical abilities. It is connected with other workstation computers or personal computer to exchange data and mostly used for scientific applications. It also supports multitasking applications.

Mini Computers

Minicomputers were introduced in early 1960s. They were faster than micro computers. Basically these computers were mainly multi-user systems, where many users work on the systems. Generally these types of computers had larger memories and greater storage capacity. They had large instruction set and address field. These kinds of computers have efficient storage for handling of text, in comparison to lower bit machines. Due to more efficient processor, speed and memory size, minicomputer was used in variety of applications and could support business applications along with the scientific applications. Minicomputer was a multi-user system which means more than one user could use this system simultaneously.

Q3: What is the meaning of computer generation? How many Computer Generations are defined? What technologies were/are used?

Ans. There are totally five computer generations known till date. The approximate dates against each generations have been mentioned in the table bellow which are normally accepted.

Generations	Time Period	Technology Used
First Generation	1946-1959	Vacuum tube
Second Generation	1959-1965	Transistor
Third Generation	1965-1971	Integrated Circuit
Fourth Generation	1971-1980	VLSI microprocessor
Fifth Generation	1980-onwards	ULSI microprocessor

Q4: Differentiate between Volatile & Non- Volatile memories.

Ans. **Volatile Memory** is used to store computer programs and data that CPU needs in real time and is erased once computer is switched off. RAM and Cache **memory** are **volatile memory**. Where as **Non-volatile memory** is static and remains in **the** computer even if computer is switched off. ROM and HDD are **non-volatile memory**.

Q5: Distinguish among system software, application software and open source software on the basis of their features.

Sr. No.	Key	System Software.	Application Software.
1	Definition	System Software is the type of software which is the interface between application software and system.	On other hand Application Software is the type of software which runs as per user request. It runs on the platform which is provide by system software.
2	Development Language	In general System software are developed in low level language which is more compatible with the system hardware in order to interact with.	While in case of Application software high level language is used for their development as they are developed as some specific purpose software.
3	Usage	System software is used for operating computer hardware.	On other hand Application software is used by user to perform specific task.
4	Installation	System software are installed on the computer when operating system is installed.	On other hand Application software are installed according to user's requirements.
5	User interaction	As mentioned in above points system software are specific to system hardware so less or no user interaction available in case of system software.	On other hand in application software user can interacts with it as user interface is available in this case.
6	Dependency	System software can run independently. It provides platform for running application software.	On other hand in application software can't run independently. They can't run without the presence of system software..
7	Examples	Some examples of system software's are compiler, assembler, debugger, driver, etc.	On other hand some examples of application software's are word processor, web browser, media player, etc.

Q6. a) Create a file in MS-word to insert a paragraph about yourself and save it with file name "yourself"**. Describe all steps involved in it.**

Ans

1. To start Word, choose Start → **All** Programs → **Microsoft Office** → **Microsoft** ...
2. **Creating a new blank document**.
3. **Type Paragraph**
4. Save – type name – yourself. – ok

Q6 b) Write steps regarding followings

Ans. **Need to get IMS**

Q7. Create a file in MS-Word for the following document and save it with file name 'ms_word'**. Describe all steps involved in it.**

Ans

MS Word

MS Word is a widely used commercial Word processor developed by Microsoft.

Ms Word is application software , which is capable of

- Creating
- Editing
- Saving ~~and~~
- Printing ant type of document

Q8. Create a file in MS-word for the following document and save it with file name 'equations'**. Describe all steps involved in it.**

Ans $X_2 = Y_5 = 30$

$Z^3 + Q^4 = 50$

$A_2 + B^8 = X_2 + Y^8$

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name 'text_to_table'. Describe all steps involved in it.

Ans

Select the text that you want to convert. Select the **Insert** tab	in the **Tables** group
click **Table**	and then click **Convert Text to Table**. In the

	Convert Text to Table dialog box
under **Separate text at**	click the option for the separator character that you used in the text.

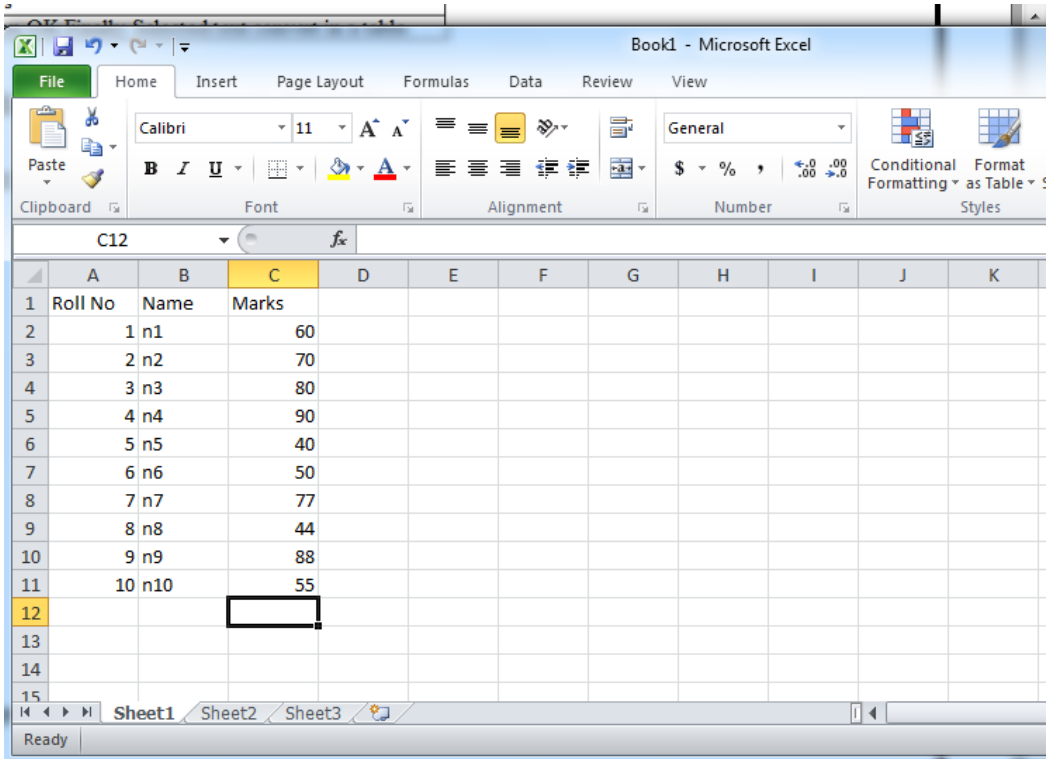
Q10. Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.

Ans

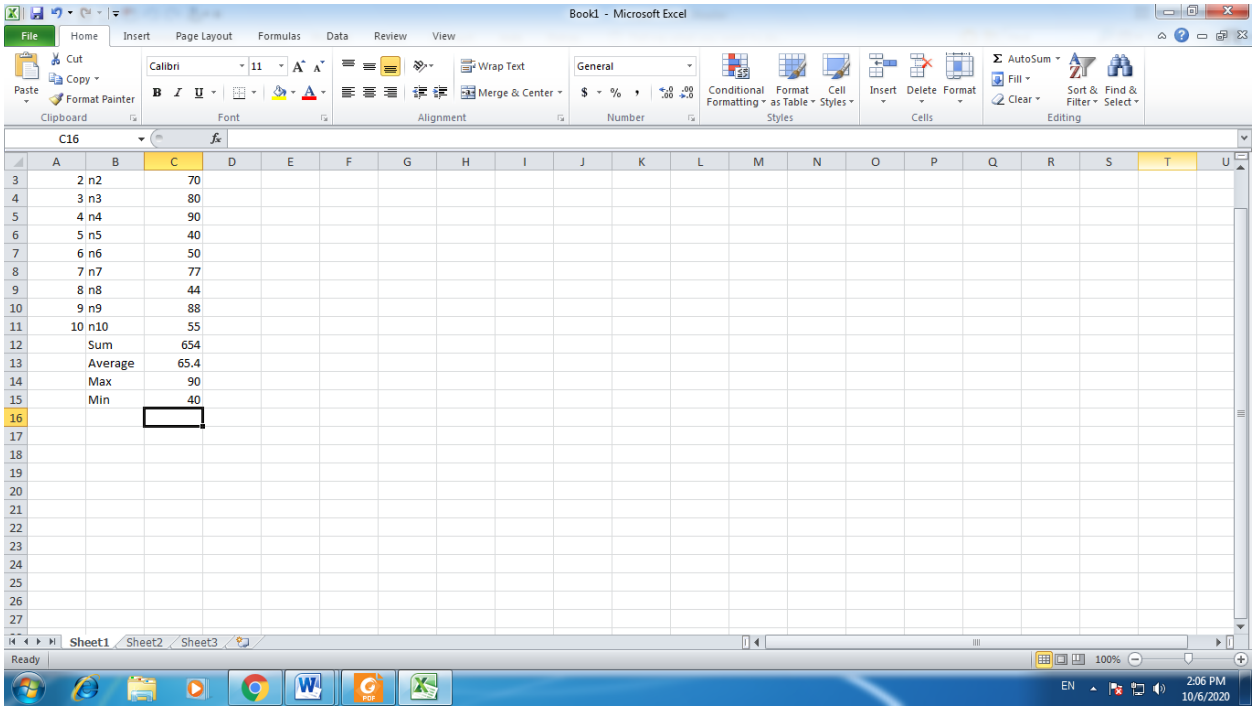
- Choose from a gallery of preformatted table templates.
- Use the Table menu to specify the number of rows and columns that you want.
- Use the Insert Table dialog box.

Q11. Create a following worksheet in MS-excel and save it with name 'book1'.

Ans



Q12. Calculate the following things of a range (C2:C11) of data in the worksheet created in question no 10



Q13 a) Describe various steps involved in the following.

Ans

- Home – Format – Column Width
- Home – Format – Row Height
- Select row / column - Home – Delete – row / column

b) Describe following terms in the worksheet.

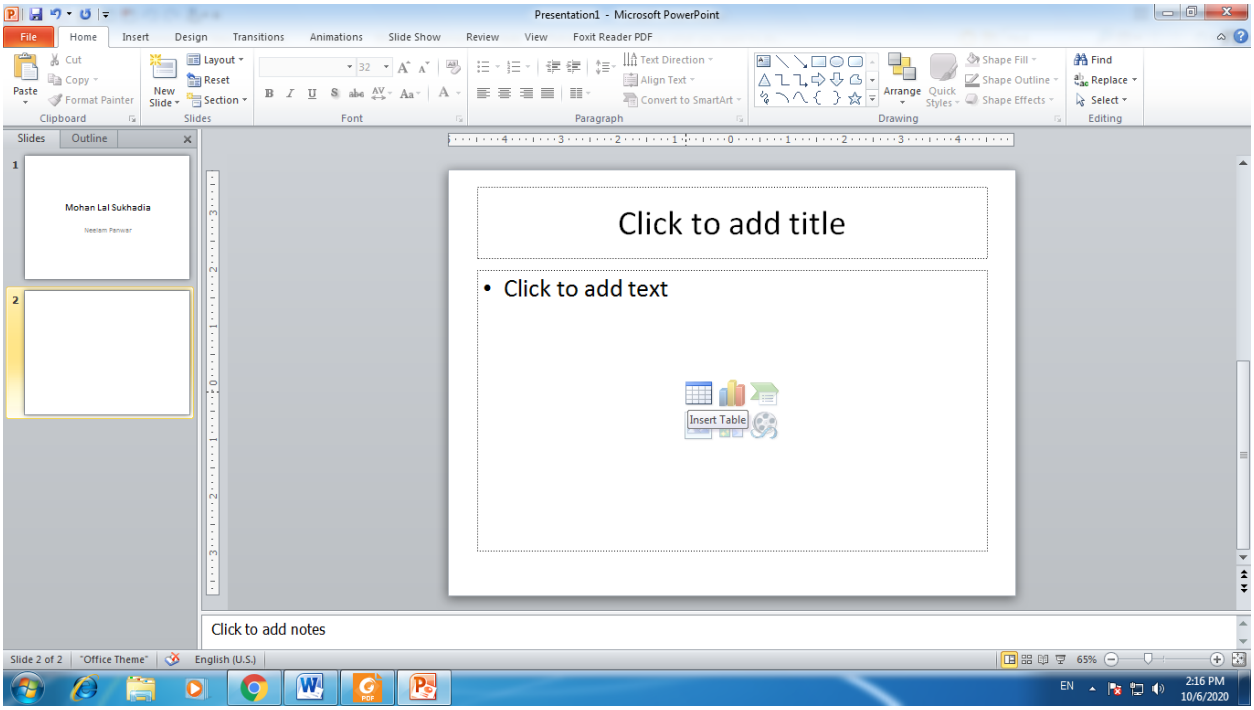
- Absolute reference and relative reference in formula - **Relative** and **absolute references** behave differently when copied and filled to other cells. **Relative references** change when a **formula** is copied to another cell. **Absolute references**, on the other hand, remain constant no matter where they are copied.
- Cell address - A **cell reference**, or **cell address**, is an alphanumeric value used to identify a specific **cell** in a spreadsheet. Each **cell reference** contains one or more letters followed by a number. The letter or letters identify the column and the number represents the row.

Q14. a) What tools are available to customize our PowerPoint presentation?

ANS

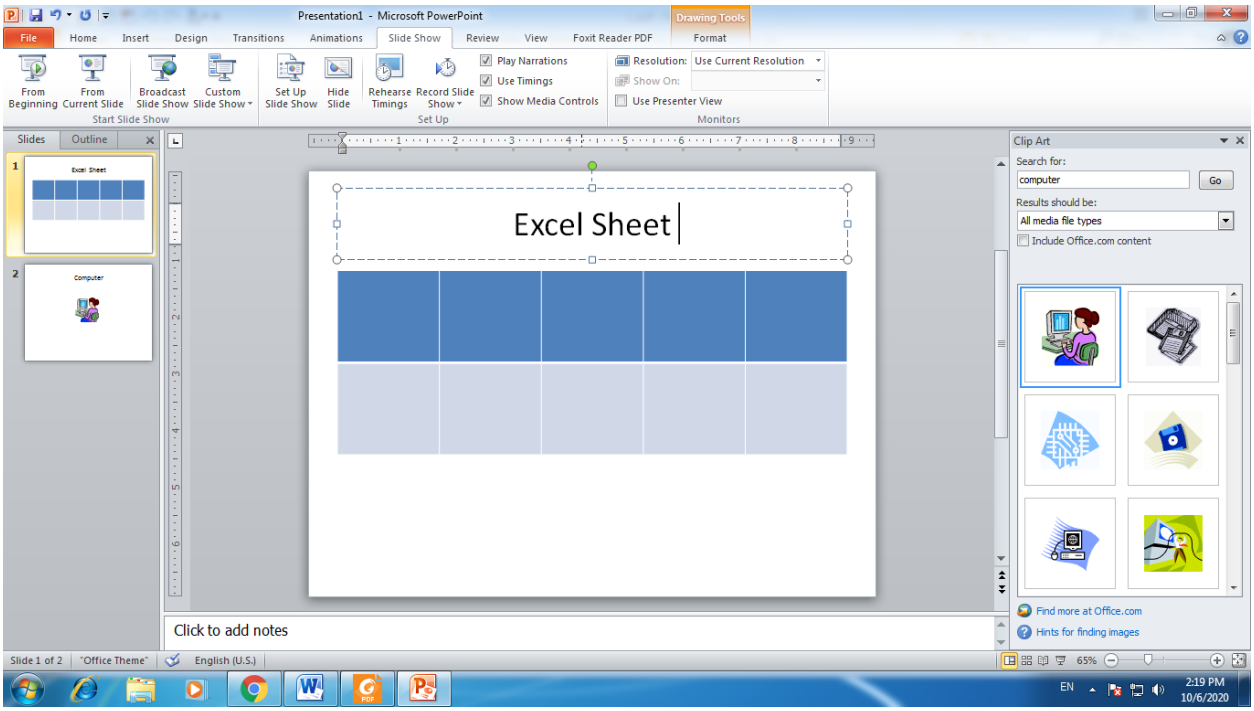
1. Create or open a **presentation** that has more than one **slide**.
2. Select the **SLIDE** SHOW tab.
3. Click Custom **Slide** Show to expand the menu, and then select Custom Shows. ...
4. Click New to create a custom Show or Edit an existing one.

b) Write the steps for the following action for creation of power point presentation.



Q15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things.

Ans



Part -2

Q16. What is the difference between Machine Language and High Level Language?

ANS.

- **Machine language**, or **machine code**, consists of binary **code** and is the only **language** that is directly understood by the **computer**. ... Both **machine code** and assembly **languages** are hardware specific.
- A **high-level language** is a **programming language** that uses English and mathematical symbols in its instructions.

Q17. Discuss about different data types of C programming Language.

Ans

DATA TYPE	MEMORY (BYTES)	RANGE	FORMAT SPECIFIER
short int	2	-32,768 to 32,767	%hd
unsigned short int	2	0 to 65,535	%hu
unsigned int	4	0 to 4,294,967,295	%u
int	4	-2,147,483,648 to 2,147,483,647	%d
long int	8	-2,147,483,648 to 2,147,483,647	%ld
unsigned long int	8	0 to 4,294,967,295	%lu
long long int	8	-(2^63) to (2^63)-1	%lld
unsigned long long int	8	0 to 18,446,744,073,709,551,615	%llu
signed char	1	-128 to 127	%c
unsigned char	1	0 to 255	%c
float	4		%f
double	8		%lf
long double	16		%Lf

Q18. Find the output of the following expressions

a) X=20/5*2+30-5 b) Y=30 – (40/10+6) +10 c) Z= 40*2/10-2+10

Ans. 127

Q19. Describe the syntax of the following statements

a) If – else statement

```
if (test expression)
{
   // statements to be executed if the test expression is true
}
```

b) for loop

```
for (initializationStatement; testExpression; updateStatement)
{
    // statements inside the body of loop
}
```

c) while loop

```
while (condition test)
{
      //Statements to be executed repeatedly
      // Increment (++) or Decrement (--) Operation
}
```

d) do-while loop

```
do
{
   // statements inside the body of the loop
}
while (testExpression);
```

Q20. Find the output of the following program segments

Ans A)

IMS Ghaziabad

IMS Ghaziabad

B)

IMS Ghaziabad

IMS Ghaziabad
IMS Ghaziabad

C) Largest number is B=100